Meeting Summary

Northern Everglades and Estuaries Protection Program
St. Lucie River Watershed Protection Plan

Kick-Off Meeting
October 24, 2007

The Kick-Off Meeting for development of the St. Lucie River Watershed Protection Plan (SLRWPP) was held on Wednesday, October 24, 2007, from 1:30 to 4:00 p.m. at the South Florida Water Management District's Martin / St. Lucie Service Center. Following is a list of attendees.

Attendee	Organization	Attendee	Organization
Mike Voich	SFWMD	Agnes Ramsey	SFWMD
Karen Smith	SFWMD	Maggy Hurchalla	Citizen
Paul Miller	Martin County	Jennifer Gihring	FDEP
Beth Williams	SFWMD	Jamie Monte	FDEP – CAMA
Dianne Hughes	FDEP	Mark Perry	FOS
Jason Bessey	SLC Stormwater	Miaol-Li Chang	SFWMD
Dale Majewski	City of Port St. Lucie	Fred Calder	FDEP
Tim Markey	SFWMD	Peter Doering	SFWMD
Bonnie Wolf	DOACS	Bob Voisinet	Florida Oceanographic
Katie Higgs	FDEP	Yongshan Wan	SFWMD
Rob McTear	FDEP	Liberta Scotto	USFWS
Jeff Anten	Tetra Tech	Pat Gostel	SFWMD
Adele Girmendonk	Martin Co Health Dept	Rebecca Elliott	FDACS / OAWP
Andrea Povinelli	TNC	Kim Love	Tetra Tech
Milton Leggett	Citizen	Doug Bournique	Indian River Citrus League
Janet Starnes	SFWMD	Kristin Bennett	Tetra Tech
Bill Griffin	Citizen	Pinar Balci	SFWMD
Boyd Gunsalus	SFWMD		

Following is a summary of the discussions at this meeting.

1. Introduction and Opening Remarks

Mike Voich, Lead Project Manager for the South Florida Water Management District (District), welcomed agency representatives and the public to the St. Lucie River Watershed Protection Plan Kick-Off Meeting. Mike introduced Karen Smith, the Martin / St. Lucie County Service Center Director, and Agnes Ramsey, the Deputy Director of the Everglades Restoration Planning Department.

The goals of this meeting were to:

- Mutually understand the Northern Everglades and Estuaries Program legislation
- Form the core River Watershed Protection Plan Working Team
- Set forth a plan and schedule for developing the Plan including the next step of developing Management Measures

A multi-disciplinary, multi-agency Working Team will perform the intense planning work required under the legislation and will consist of representatives of government agencies at the state level and below.

The format for the Working Team meetings will be for the government agencies to be seated around the table so that they may actively and collaboratively engage in the planning process. The Team's focus will be to put together the technical pieces of the plan. The meetings will focus on gathering technical information, exchange of information, and discussion and feedback on draft technical products. First steps include defining the planning area, and identifying and quantifying existing and new Management Measures. The public is welcome to attend these Working Team meetings and there will be opportunities for public comments at designated points during the meetings. Other venues for public input include the Northern Everglades Interagency Group, the Water Resources Advisory Commission (WRAC), the Lake Okeechobee Sub-Committee of the WRAC, and the District's Governing Board Meetings and Workshops.

Anyone who would like to be added to the e-mail list for meeting announcements, summaries and other exchanges was asked to provide their contact information to Mike [mvoich@sfwmd.gov] or to Karen [klsmith@sfwmd.gov].

2. Summary of Northern Everglades Legislation

Agnes reviewed the legislative mandate for the Northern Everglades and Estuaries Protection Program (§373.4595), which is being implemented by the District in collaboration with the Florida Department of Environmental Protection (FDEP) and the Florida Department of Agriculture and Consumer Services (FDACS).

The legislation specifically requires the development of a technical plan for Phase II of the Lake Okeechobee Watershed Construction Project by February 1, 2008. The legislation also requires the development of two new Protection Plans for the Caloosahatchee and St. Lucie River Watersheds to identify watershed storage and water quality projects by January 1, 2009.

The SLRWPP must identify the geographic extent of the watershed and be coordinated with other initiatives and plans. It must build upon and augment restoration plans currently underway. The Plan must set forth a schedule by which its objectives will be achieved through a phased program of implementation through 2020.

Water quality elements of the program include the direction to utilize adopted Total Maximum Daily Loads (TMDLs) as the basis for pollutant load reduction objectives. A goal for salinity envelopes and freshwater inflow targets for the St. Lucie estuary also will be included.

3. Summary of St. Lucie River Watershed Protection Plan

Mike provided a summary of the section of the Northern Everglades legislation that describes the St. Lucie River Watershed Protection Plan (SLRWPP) and stressed that the focus is to build upon existing planning and restoration efforts that have already been performed in this area. Mike also noted that it will be very important for strong communication between the teams working on existing planning efforts, TMDL development processes and the new SLRWPP. The working team will be comprised of representatives from the coordinating agencies

(SFWMD, FDEP and FDACS), Martin County, St. Lucie County and municipalities in the project area.

The SLRWPP will include the following three elements:

Watershed Construction Project
The initial phase of the St. Lucie River Watershed Construction Project must be planned, designed and constructed by January 1, 2012. Stormwater Treatment Areas (STAs), detention areas and stormwater retrofits are examples of what will be considered. The purpose of the construction features will be to improve hydrology, water quality and aquatic habitats within the watershed.

Watershed Pollution Control Program
FDACS has the lead responsibility for this program, which will provide a multi-faceted approach for managing the pollutant sources within the watersheds. This includes expediting the implementation of non-point source best management practices (BMPs), awarding grant funds to projects that make use of private lands, rulemaking and other requirements.

Watershed Research and Water Quality Monitoring Program
This research and monitoring program will build upon the District's existing research program, in cooperation with the coordinating agencies and local governments.

Three overlapping Working Teams will interact and work in parallel to implement rulemaking, conduct analyses and evaluations, establish procedures and programs, coordinate among the agencies, and involve the public. These teams will be known as:

- River Watershed Protection Plan Working Team – the Working Team of this meeting
- TMDL Development Working Team
- Research / Water Quality Monitoring Plan Working Team

It is anticipated that the demands of plan formulation will require the development of a small sub-team of the Working Team to meet frequently (i.e. weekly) to develop the DRAFT work products for the Working Team's review. Informative updates will be provided by this sub-team approximately every month to the Working Team. The District's Governing Board and WRAC will receive frequent updates and presentations. Anyone wishing to participate on the Sub-team, Working Team or attend its meetings is asked to indicate their level of participation and provide their contact information to Mike, who will update Working Team list and the other e-mail lists.

One of the first challenges of the Working Team will be to fully define the planning area. The initial thought is that the ultimate boundaries should be very inclusive, so as to be able to incorporate the most opportunities to benefit the river and estuary.

Ideally, all projects proposed, planned or underway will be captured in the Plan, so that the Legislature can understand the magnitude of the issues in the area and appreciate the suite of benefits that will ensue from implementation of the Plan.

4. Plan Development

The interagency Working Team will take the lead on the technical analysis and planning necessary to develop the St. Lucie River Watershed Construction Project and some portions of the St. Lucie River Watershed Pollutant Control Program. The team will convene regularly to discuss, develop and evaluate work products. Public input will be encouraged during the team's meetings and in the venues described under Item 1 above.

Major milestones in the schedule for development of the Plan include:

- Plan Development Through Spring 2008
- Draft Plan Preparation Summer 2008
- Public Review Fall 2008
- Submit Plan to Legislature January 1, 2009

This aggressive schedule implies that the Working Team will use existing tools, models and information to the extent possible.

The question was raised as whether the Plan should "assume" that Lake Okeechobee is "fixed" and therefore, not a factor. The current thought is that even after full implementation of the Lake Okeechobee Protection Plan, there probably will still be some water coming from the lake that will adversely affect the river and the estuary. This gives the Working Team the opportunity to consider Management Measures to address these remaining regulatory releases.

Mike presented an array of initial Problems, Objectives and Constraints that have been identified for this Plan:

- Problems. Excess regulatory discharges from Lake Okeechobee; excess discharges resulting from watershed runoff; excess nutrient loads to river and estuary; undesirable low flows to estuary; impacts to aquatic habitats; muck accumulation
- Objectives. Meet TMDLs; Manage Lake Okeechobee flows to meet desirable salinity ranges for estuary; manage watershed discharges to meet desirable salinity ranges for estuary; reduce pollutant loads by improving management of pollutant sources throughout the watershed; establish Research and Water Quality Monitoring Program sufficient to implement the program and projects.
- Constraints. Maintain existing levels of flood protection; maintain water supply for affected water user basins; MFLs.

After a brief discussion, it was determined that the problem of undesirable low flows to the estuary may not need to be listed under the "Problems" list since basin run-off generally provides the beneficial low flows needed in the system. The low flow issue may need to be looked at in the future to confirm that the various basin improvements included in the final plan do not change this condition.

5. Current State of the Watershed

Boyd Gunsalus provided an overview of the St. Lucie Watershed. Some of the facts he presented are as follows:

- The S-308 structure is the area's only connection to Lake Okeechobee

- CERP Indian River Lagoon – South deals with the western portions of the watershed only
- The conveyance system has very little storage in it
- Land use includes row crops, sod, citrus and beef cattle
- An excess volume of water is coming to the estuaries
- Tributaries contribute a tremendous amount to the estuaries even without Lake discharges
- Discharges have had deleterious effects on seagrasses
- Land use analyses from 1972 through 2004 reveal large changes in population in urban sectors
- The eastern portions of the watershed are largely urban with many golf courses
- The western portions of the watershed have a lot of citrus
- Estuarine shoreline habitat is being destroyed
- Approximately 70 percent of the watershed has elevated concentrations of Total Phosphorus
- About 90 percent of the watershed has elevated concentrations of inorganic Nitrogen
- It is assumed that BMPs will resolve 10 percent of the nutrient issues
- The urban sector is not nearly as engaged as the agricultural sector

It is clear that there are many opportunities and challenges in the watershed. Further there are other on-going projects, including CERP's Indian River Lagoon – South Plan and the Ten Mile Creek Critical Restoration Project; and the St. Lucie Issue Team has a total of $124 million of projects in place.

The outlook for the watershed includes:

- Total Maximum Daily Loads. Establishment of water quality standards for impaired water bodies.
- Acceler8. An expedited CERP initiative, which includes the C-44 Reservoir and STA, a component of the Indian River Lagoon – South Plan.
- Indian River Lagoon – South Plan. A sound plan that is awaiting federal authorization and then requires federal appropriation of funds
- Ten Mile Creek. A 550 acre reservoir and 110 acre STA that was designed and constructed by the U.S. Army Corps of Engineers.
- Lake Okeechobee and Estuary Recovery Plan. A series of expedited capital projects to provide meaningful water quality improvements to the Lake and the St. Lucie and Caloosahatchee estuaries.
- Northern Everglades and Estuaries Protection Program. Includes this St. Lucie River Watershed Protection Plan and the associated Watershed Pollutant Control and Research and Water Quality Monitoring programs.

6. Initial Identification of Management Measures

A Management Measure is defined as a feature or activity that can be implemented at a specific site to address one or more planning objectives. It may be a feature that is defined as a structural element that requires construction or assembly on-site; or it may be a non-structural action or practice that is implemented to achieve one or more project goals.

Mike distributed a template and examples of existing Management Measure "one pager's" to provide a common means of communicating creative ideas, plans, and projects. Each Management Measure (i.e. reservoirs, STAs, Agricultural BMPs and rulemaking) should be developed on a separate page. Existing data, existing measures, ideas that keep coming up (even "bad" ideas) need to be developed and considered in the Technical Plan.

Each proposed Management Measure will be described and developed as to its purpose, location, size or capacity, status, cost, and estimates of water quality and quantity benefits, and level of certainty. A Management Measure's level of certainty will be expressed by one of five Levels which are described as:

- Level 1. Already constructed/implemented or construction/implementation imminent.
- Level 2. Construction/implementation likely; detailed design/activity development on-going; location well defined.
- Level 3. Implementation certainty unknown; conceptual level of design/activity development complete; location defined.
- Level 4. Implementation certainty unknown; conceptual idea; may have rough order of magnitude cost and/or general basin location.
- Level 5. Implementation certainty unknown; conceptual idea with limited information.

Mike asked that all Draft Management Measures be provided to him by November 7. After review and discussion with the contact person, Final Draft Management Measures will be due to him by November 14. At the next meeting of the Working Team, the completed Management Measures will be reviewed.

7. Public Comment Period

The following Public Comment was provided:

- Consider reconnecting to the St. John's River – this is an historical connection, and would allow water to be moved north rather than to the Estuary.
- Consider paying farmers to "farm" water – to store water on their lands.
- Buying and hydrating natural areas is the quickest and cheapest means of improving water quality. Fill the ditches; quit dumping water; stop draining. Look to Allapattah as an example. Consider what lands the State already owns; look in to what is being done with the bombing range; and then replicate the existing hydroperiod, but don't flood the neighbors.
- It is too expensive to build small reservoirs (Ten Mile Creek); go with large ones.
- Be careful with septic tanks. Make sure the state and local health departments are willing to stop approving them in new developments. Environmental programs should not have to step in and do what local governments should be doing regarding septic tanks.
- Martin County's remaining Indian River Lagoon – South lands need to be acquired, and all are in natural areas. Once acquired, the County should fill in the ditches and rehydrate the lands, which is the only way to reduce the volume to the estuary.
- Government agencies need to come to terms as to whether Natural Areas are "land purchases" or "projects".
- Stormwater regulations for new development must be fixed to keep higher volume and more nitrogen from being dumped in the estuary.

- Farming water on private lands can be a good idea on a permanent basis, but the ranchers need to be paid enough to compensate for the profits they could otherwise earn for other uses for their lands over time. Perform the necessary cost accounting.
- Monitor. Find out where the "hot spots" are.
- A recommended read: 1000 Friends of Florida's new publication, "Working to Sustain Florida … A Call to Action". You can't buy all the lands, you can't build all the facilities; you still won't get enough storage; please consider the plan on 1000 Friends web site – consider it a road map for agricultural and rural lands.
- We can't build or buy our way out of the issues; we must keep agriculture and open spaces.
- Economic strategies must include working with local landowners and farming water. Think about how the private sector can participate. Think about how to involve the people who are already on the land in the solution.

8. Closing Remarks / Review Action Items and Next Steps

Mike thanked the individuals and agencies for their participation in this initial meeting, and invited everyone to visit the web site at my.sfwmd.gov/northerneverglades. The web site contains information about the overall initiative, the legislation and the individual plans, presentations, meeting dates and other items of interest.

The action items are as follows:

1. Develop Management Measures Sheets for all projects that can help the St. Lucie River and Estuary

2. Visit the new Northern Everglades website at http://my.sfwmd.gov/northerneverglades

3. Government Agencies to send notification to SFWMD regarding who will be your representative on the Working Team

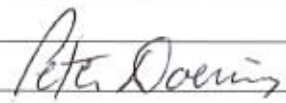
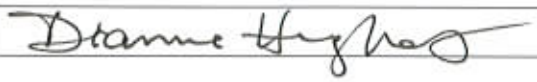
4. E-mail List – Please let SFWMD know if you do not want to be on the list or if you know anyone that would like to be added.

The Working Group's next meeting is scheduled for Thursday, November 29, 2007 at the Martin / St. Lucie Service Center (time to be determined).

Sign in Sheet

St. Lucie River Watershed Protection Plan Kick- Off Meeting

SFWMD Martin/St. Lucie Service Center
October 24, 2007
1:30 to 4:00 PM

Name	Signature	Agency
Amerson, Sam		City of Stuart
Balci, Pinar		SFWMD
Bartolone, Frank		SFWMD
Beach, Dennis		City of Port St. Lucie
Beal, Jeff		FFWCC
Bessey, Jason		St. Lucie County
Budell, Rich		DOACS
Carter, Fred		FDEP
Chang, Miaol-Li		SFWMD
Connolly, Linda		DOACS
Cooper, Don		City of Port St. Lucie
Crane, Linda		DOACS
Doering, Peter		SFWMD
Duke, Dennis		SFWMD
Gerry, Lawrence		SFWMD
Gihring, Bill		City of Stuart
Gostel, Pat		SFWMD
Graves, Greg		SFWMD
Griffin, Bill		City of Stuart
Gunsalus, Boyd	(ATTENDED) - ALAN	SFWMD
Haunert, Dan		SFWMD
Herren, ~~Linda~~ Laura		FDEP
Hudson, Dan		City of Stuart
Hughes, Dianne		FDEP
Johnson, Paul		City of Port St. Lucie
Kellogg, Robert		Sewalls Point
Kennedy, Sally		SFWMD
Kennedy, William C.		FDEP
Leggett, Milton		City of Stuart

Sign in Sheet

St. Lucie River Watershed Protection Plan Kick- Off Meeting

SFWMD Martin/St. Lucie Service Center
October 24, 2007
1:30 to 4:00 PM

Name	Signature	Agency
Lewis, Beth		SFWMD
MacLaughlin, Doug		SFWMD
Majewski, Dale		City of Port St. Lucie
Markey, Timothy		SFWMD
Millar, Paul		Martin County
Mitnik, John		SFWMD
Morgan, Temperince		SFWMD
Moses, Jim		DOH
Murphy, Mary		FDEP
Nearhoof, Frank		FDEP
Neidrauer, Cal		SFWMD
O'Neal, Terry		
Polley, John		Martin County
Pride, Terry		DOACS
Ramirez, Armando		SFWMD
Redfield Garth		SFWMD
Roderick, Gary		Martin County
Sime, Patti		SFWMD
Smith, Donna		USDA
Smith, Karen	(ATTENDED) - KSW	SFWMD
Startzman, Robb		SFWMD
Teets, Tom		SFWMD
Viator, Mary		Caldwell Pacetti
Voich, Michael		SFWMD
Wan, Yongshan		SFWMD
Washam, Bob		DOH
West, Don		St. Lucie County
Whalen, Benita		SFWMD
Williams, Beth		SFWMD

Sign in Sheet

St. Lucie River Watershed Protection Plan Kick- Off Meeting

SFWMD Martin/St. Lucie Service Center
October 24, 2007
1:30 to 4:00 PM

Name	Signature	Agency
Wolf, Bonnie		DOACS
Gihring, Jennifer		FL DEP
Higgs, Katie	Katie Higgs	FL DEP
McLear, Rob		FL DEP
BOB VOISINET		FLA Oceanographic
Jeff Anstett		Tetra Tech
Liberta Scotto		USFWS Liberta_Scotto@fws.gov
Adela Girmondonk		Martin Co. Health Dept.
Rebecca Elliott		FDACS / OAWP
Andrea Povinelli	Andrea F. Povinelli	TNC
Deanne Hughes	Deanne Hughes	FDEP
Kim LOVE		TETRA TECH
KRISTIN BENNETT	Kristin Bennett	Tetra Tech Kristin.Bennett@tetratech.com
Monty, Jamie		FDEP - CAMA → See card
Dale MASEWSKI		City of PSL
Jason Bessey		SLC Stormwater
Bill Griffin		
Milton Leggett		
PAUL MILLAR		MARTIN CO.
JANET STARNES	Janet Starnes	
MARK PERRY		FOS
FRED CALDER		FDEP
Doug Bournique		Indian River Citrus League
Maggy Hurchalla		MHURCHALLA@HOTMAIL.COM
AGNES RAMSEY	(ATTORNEY) - MARTIN	

Attachments:

1. Meeting Agenda

2. Project Area Map

3. Presentation on Northern Everglades and Estuaries Protection Program

4. Problems, Objectives, and Constraints

5. Presentation on the St. Lucie Watershed

6. Example DRAFT Management Measure Sheets

1. Meeting Agenda

AGENDA
St. Lucie River Watershed Protection Plan
Kick-Off Meeting

Wednesday, October 24, 2007
1330 - 1600

SFWMD Martin/St. Lucie Service Center
780 Southeast Indian Street
Stuart, FL 34997
(772) 223-2600

1 Introduction and Opening Remarks

2 Summary of Northern Everglades Legislation

3 Summary of St. Lucie River Watershed Protection Plan

- Construction Project
- Pollutant Control Program
- Research & Water Quality Monitoring Program
- TMDLs

4 Plan Development

5 Current State of the Watershed

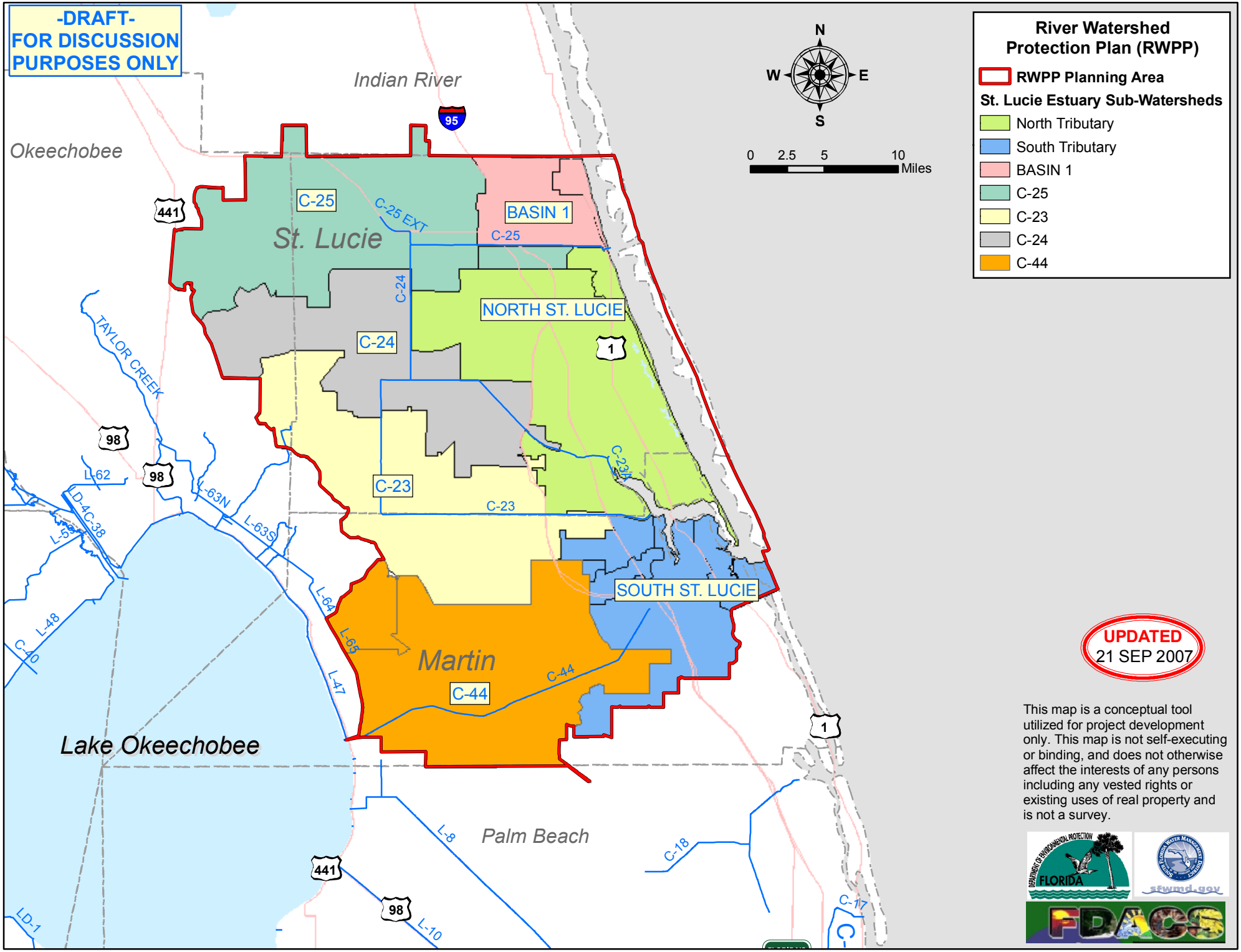
6 Initial Identification of Management Measures

7 Public Comment Period*

8 Closing Remarks/Review Action Items and Next Steps

* As time permits, a brief Public Comment Period will be held at this point in the agenda

2. Project Area Map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FOR DISCUSSION
PURPOSES ONLY
Indian River
Okeechobee
Lake Okeechobee
Palm Beach
St. Lucie
Martin
C-25
C-25 EXT
BASIN 1
NORTH ST. LUCIE
C-24
C-23
SOUTH ST. LUCIE
C-44
TAYLOR CREEK
L-62
L-63N
L-63S
L-64
L-65
L-47
L-48
L-8
L-10
LD-4C-38
LD-1
C-40
C-18
C-17
95
441
98
1
N
W
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0 2.5 5 10
Miles
River Watershed
Protection Plan (RWPP)
RWPP Planning Area
St. Lucie Estuary Sub-Watersheds
North Tributary
South Tributary
BASIN 1
C-25
C-23
C-24
C-44
UPDATED
21 SEP 2007
This map is a conceptual tool utilized for project development only. This map is not self-executing or binding, and does not otherwise affect the interests of any persons including any vested rights or existing uses of real property and is not a survey.
FLORIDA
sfwmd.gov
FDACS

3. Presentation on Northern Everglades and Estuaries Protection Program

Northern Everglades & Estuaries Protection Program

St. Lucie River Watershed Protection Plan

Kick-Off Meeting

October 24, 2007

Agenda

- Northern Everglades Legislation
- St. Lucie River Watershed Protection Plan
- Plan Development
- Management Measures
- Current State of the Watershed
- Public Comment Period

2

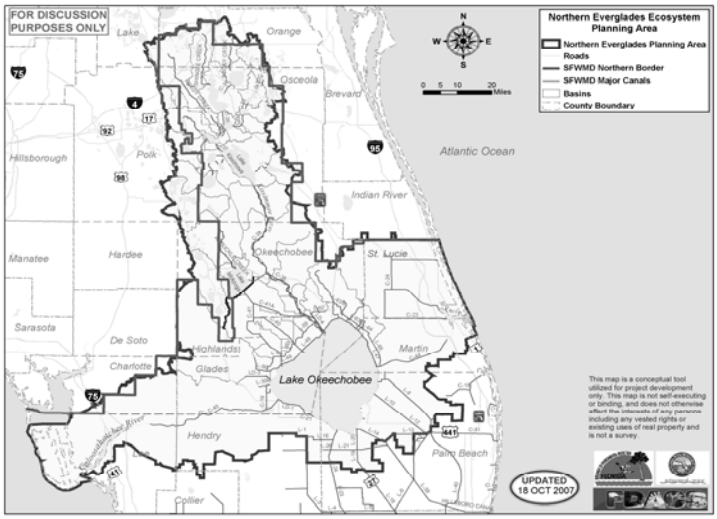
Northern Everglades Legislation

Northern Everglades Legislation

- Expands Lake Okeechobee Protection Program to the Northern Everglades and Estuaries Protection Program
- Recognizes that Lake Okeechobee, Caloosahatchee, and St. Lucie Watersheds are critical water resources of the state
- Identifies the need for a watershed-based approach to restoring and protecting these watersheds

4

Northern Everglades Ecosystem Planning Area



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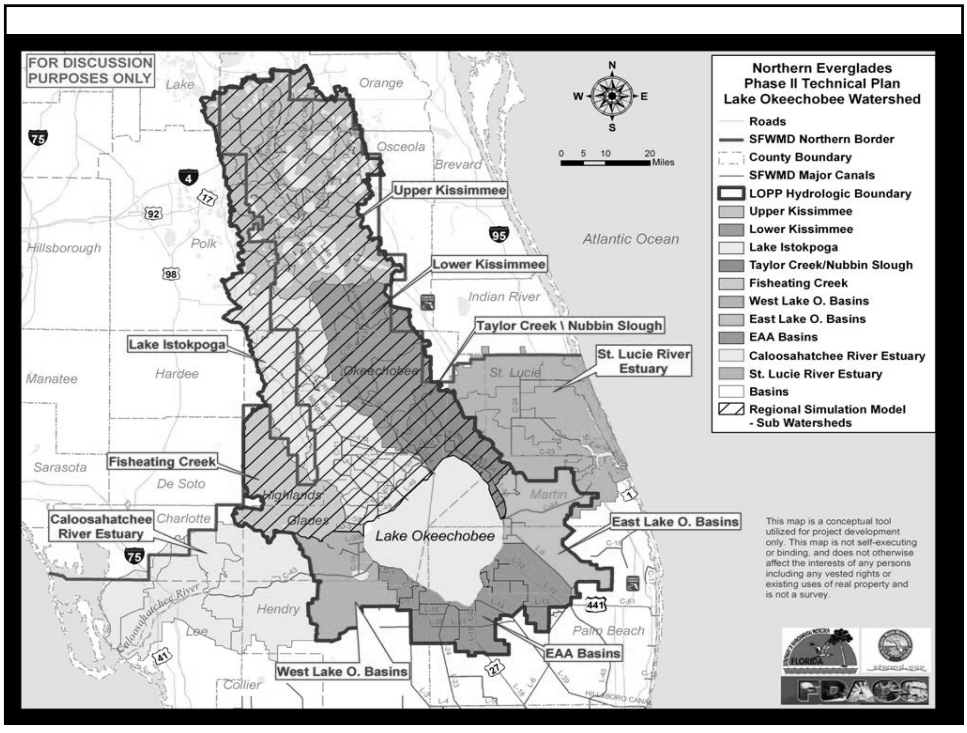

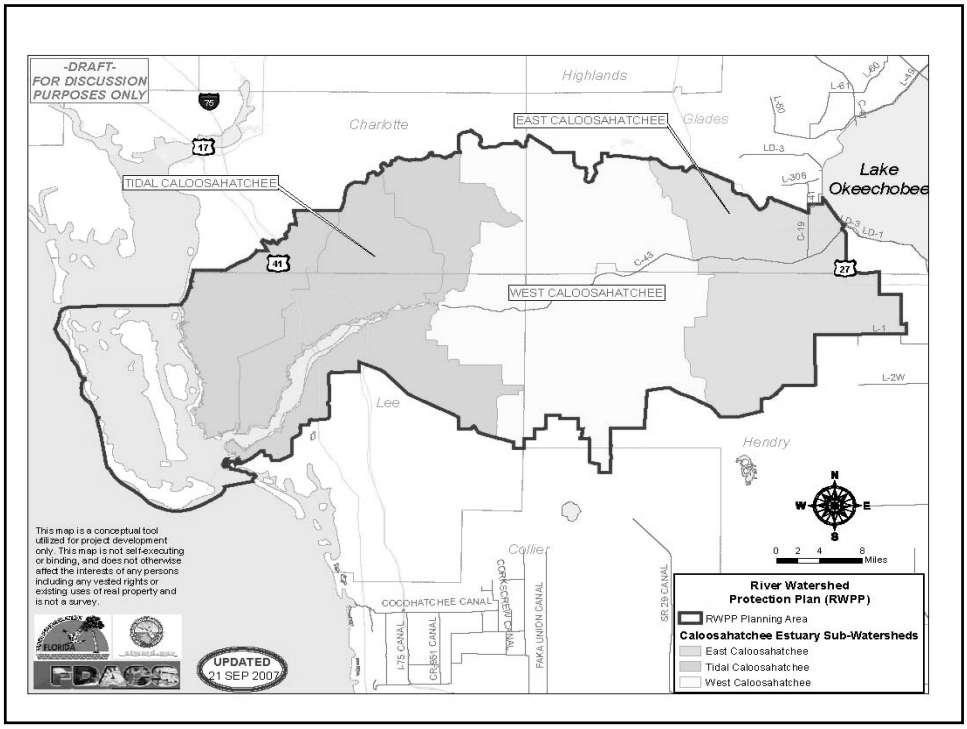
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FOR DISCUSSION
PURPOSES ONLY
Highlands
Charlotte
Glades
EAST CALOOSAHATCHEE
TIDAL CALOOSAHATCHEE
WEST CALOOSAHATCHEE
Lake
Okeechobee
Lee
Hendry
Collier
COCOHATCHEE CANAL
I-75 CANAL
CR-951 CANAL
CORKSCREW CANAL
FAKA UNION CANAL
SR 29 CANAL
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UPDATED
21 SEP 2007
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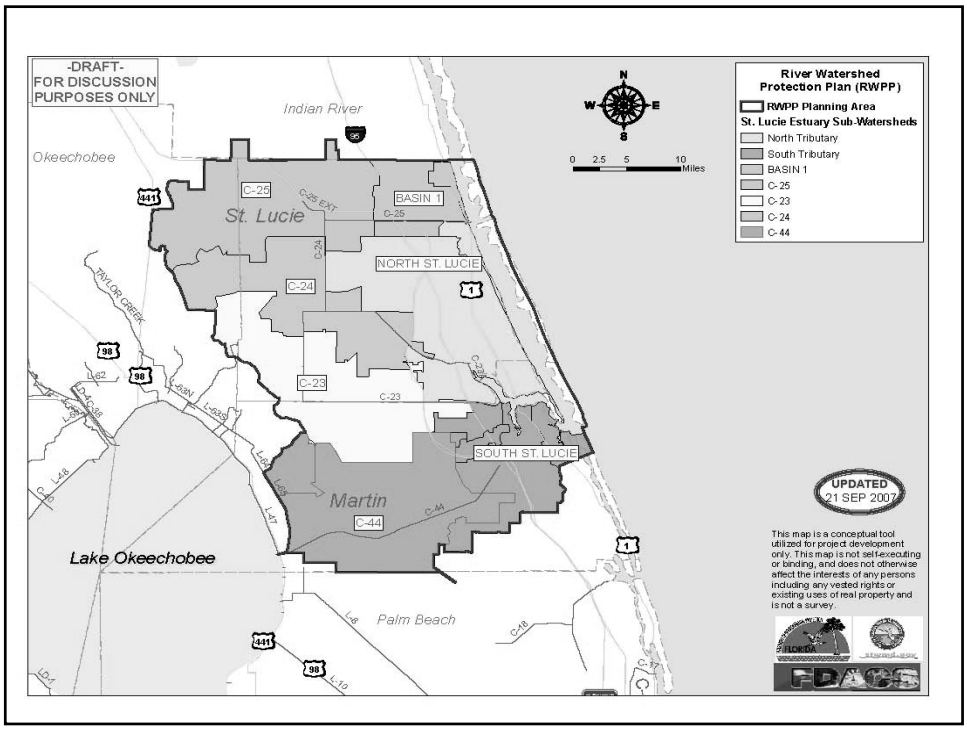
Miles
River Watershed
Protection Plan (RWPP)
RWPP Planning Area
Caloosahatchee Estuary Sub-Watersheds
East Caloosahatchee
Tidal Caloosahatchee
West Caloosahatchee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Indian River
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SOUTH ST. LUCIE
C-44
TAYLOR CREEK
0 2.5 5 10
Miles
River Watershed
Protection Plan (RWPP)
RWPP Planning Area
St. Lucie Estuary Sub-Watersheds
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21 SEP 2007
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Northern Everglades Legislation

- Builds-on and augments restoration plans currently underway
- Expands the use of the Save Our Everglades Trust Fund for Northern Everglades restoration
- Extends the state's commitment to provide funding for CERP and the Northern Everglades through the year 2020

9

Northern Everglades Plan Requirements

- Continued implementation of Lake Okeechobee Protection Plan including development of a technical plan for Phase II of the Lake Okeechobee Watershed Construction Project by February 1, 2008
- Development of two new Protection Plans for the Caloosahatchee and St. Lucie River Watersheds to identify watershed storage and water quality projects by January 1, 2009

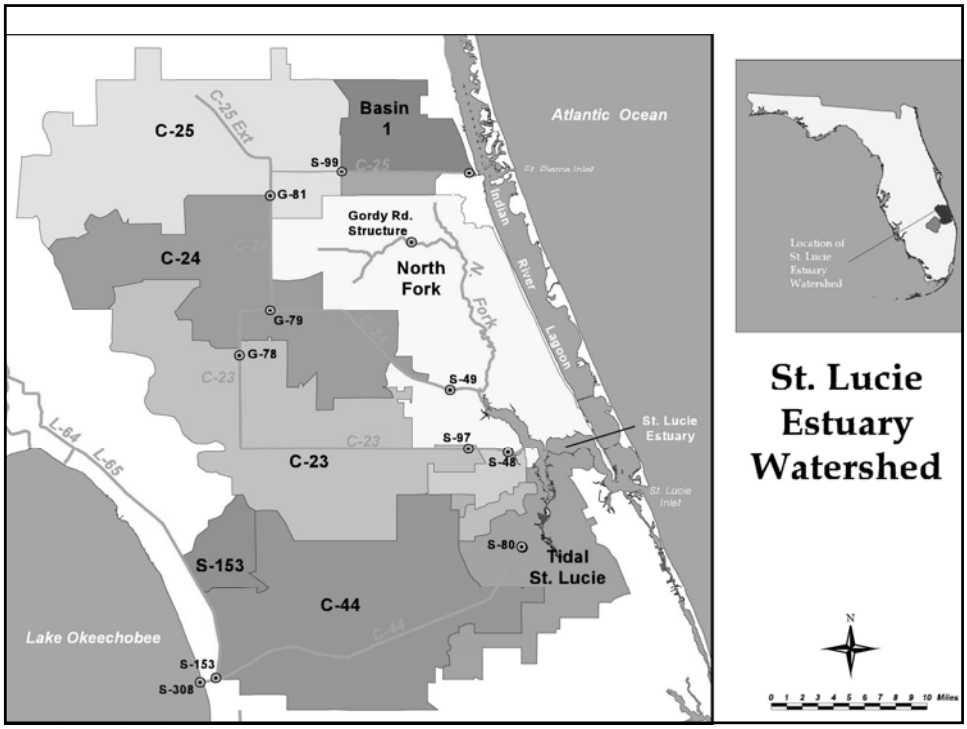
10

Northern Everglades Protection Plan Requirements

- Identify geographic extent of watershed
- Be coordinated as needed with other protection plans
- Be achieved through phased program of implementation
- Utilize adopted TMDLs as basis for pollutant load reduction objectives
- Include a goal for salinity envelopes and freshwater inflow targets for the estuary

11

St. Lucie River Watershed Protection Plan



St. Lucie River Watershed Protection Plan Cooperating Agencies

- Coordinating Agencies
  - South Florida Water Management District (SFWMD)
  - Florida Department of Environmental Protection (FDEP)
  - Florida Department of Agriculture and Consumer Services (FDACS)
- Martin County
- Affected counties and municipalities

14

St. Lucie River Watershed Protection Plan Elements

- Watershed Construction Project
- Watershed Pollutant Control Program
- Watershed Research and Water Quality Monitoring Program

15

St. Lucie River Watershed Construction Project

- Purpose is to improve hydrology, water quality, and aquatic habitats within the watershed
- By January 1, 2012, the SFWMD shall plan, design, and construct the initial phase of the construction project to include:
  - Developing and designating the facilities needed to meet the protection plans goals and objectives
  - Conducting the necessary scientific studies to support design of the facilities
  - Identifying the size and location of each facility
  - Providing construction schedule and costs

16

St. Lucie River Watershed Pollutant Control Program

- To provide a multifaceted approach for managing the pollutant sources within the watersheds, including:
  - Expediting the implementation of non-point source best management practices
  - Awarding grant funds to projects that make use of private lands or lands held in trust for Indian tribes
  - Requiring an assessment of the current water management practices
  - Directing DEP to prohibit, after December 31, 2007, the disposal of domestic wastewater residuals within the watershed unless the applicant can demonstrate that such disposal will not add to phosphorus loadings in the lake or its tributaries

17

St. Lucie River Watershed Pollutant Control Program (continued)

- Directing the Department of Health to require all entities disposing of septage within the watersheds to develop and submit an agricultural use plan that limits applications based upon nutrient loading
- Directing the FDACS to initiate rulemaking to require entities within these watersheds that land-apply animal manure to develop resource management system level conservation plans
- Directing the coordinating agencies to facilitate the use of federal programs that offer opportunities for water quality treatment, including those designed to preserve, restore, or create wetlands on agricultural lands

18

St. Lucie River Watershed Research and Water Quality Monitoring Program

- Developed by the SFWMD, in cooperation with the coordinating agencies and local governments
- This program shall-
  - Build upon the SFWMD's existing research program
  - Shall be sufficient to carry out, comply with, or assess the plans, programs, and other responsibilities
  - Conduct an assessment of the water volumes and timing from Lake Okeechobee and St. Lucie River Watershed and their relative contribution to the timing and volume of water delivered to the estuary

19

Total Maximum Daily Loads and Basin Management Action Plans

- Significant work completed for nutrient and dissolved oxygen Total Maximum Daily Loads (TMDLs) in estuarine and freshwater portions of St. Lucie Watershed
- On schedule to be proposed by May 30, 2008 for final agency action by the Florida Department of Environmental Protection (FDEP)
- St. Lucie River Watershed Protection Plan (SLRWPP) shall provide the basis for Basin Management Action Plan (BMAP) which shall be initiated by FDEP no later than September 30th of the year that the SLRWPP is ratified
- Initial steps in St. Lucie BMAP development have already occurred. Primary BMAP development likely to begin in June 2008.

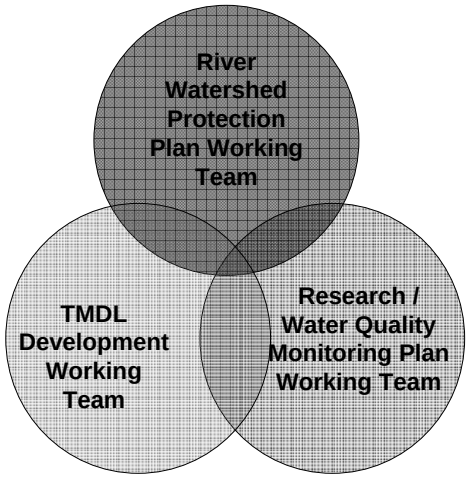
20

Moving Forward with Legislative Requirements

- Legislation identifies lead agency and cooperating parties for the various requirements
- Lead agencies will identify the appropriate process for addressing specific requirements, which may include
  - Creation of working team
  - Rulemaking
  - Conducting evaluations and analysis
  - Establishment of procedures and programs
  - Interagency coordination and public involvement
- Agencies will coordinate as necessary to ensure coordination and consistency across efforts

21

Interaction Between Working Teams



22

Plan Development

St. Lucie River Watershed Protection Plan Working Team

- This team will take lead on technical analysis and planning process necessary to develop-
  - St. Lucie River Watershed Construction Project
  - Some portions of St. Lucie River Watershed Pollutant Control Program
- Team will convene on a regular basis to discuss, develop, and evaluate work products

24

St. Lucie River Watershed Protection Plan Working Team

- Team work products will be presented and discussed through various venues, including-
  - Northern Everglades Interagency Meeting
  - Water Resources Advisory Commission (WRAC)
  - WRAC- Lake Okeechobee Subcommittee
  - SFWMD Governing Board Meetings
- Public input is encouraged during these venues

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Technical Plan Development Schedule

- Plan Development Through Spring 2008
- Draft Plan Preparation Summer 2008
- Public Review Fall 2008
- Submit Plan to Legislature January 1, 2009

26

Initial Identification of Problems, Objectives, and Constraints

Problems	Objectives	Constraints
▪ Excess regulatory discharges from Lake Okeechobee ▪ Excess discharges resulting from watershed runoff ▪ Excess nutrient loads to estuary ▪ Undesirable low flows to estuary ▪ Impacts to aquatic habitats	▪ Meet Total Maximum Daily Loads ▪ Manage Lake Okeechobee flows to meet desirable salinity ranges for estuary ▪ Manage watershed discharges to meet desirable salinity ranges for estuary ▪ Reduce pollutant loads by improving management of pollutant sources throughout the watershed ▪ Establish Research and Water Quality Monitoring Program sufficient to implement the program and projects	▪ Maintain existing levels of flood protection ▪ Maintain water supply for affected water user basins ▪ Minimum flows and levels

27

Management Measures

Management Measures

- **Definition**
  - **A management measure is a feature or activity that can be implemented at a specific site to address one or more planning objectives.**
  - **A feature is defined as a structural element that requires construction or assembly on-site.**
  - **An activity is defined as a non-structural action or a practice that is implemented to achieve one or more project goals.**

29

Initial Identification of Management Measures

- **Initial step compile and sort management measures by levels**
- **Levels of management measures**
  - **Level 1- Already constructed/implemented or construction/implementation imminent**
  - **Level 2- Construction/implementation likely; Detailed design/activity development ongoing; Location well defined**
  - **Level 3- Implementation certainty unknown; Conceptual level of design/activity development complete; Location defined**
  - **Level 4- Implementation certainty unknown- Conceptual idea; May have rough order of magnitude cost and/or general basin location**
  - **Level 5- Implementation certainty unknown-Conceptual idea with limited information**

30

Management Measure Template

- **Project:**
- **Description:**
- **Purpose:**
- **Location/Size/Capacity:**
- **Initiative Status:**
- **Cost:**
- **Documentation:**
- **Estimate of Water Quality Benefits:** min, max, most likely; level of certainty; assumptions leading to benefits estimates
- **Estimate of Water Quantity Benefits:** min, max, most likely; level of certainty; assumptions leading to benefits estimates
- **Overall Level of Certainty: Levels 1-5 (select one)**

31

Public Comment Period

my.sfwmd.gov/northerneverglades

Summary

- Northern Everglades Legislation
- St. Lucie River Watershed Protection Plan
- Plan Development
- Management Measures
- Current State of the Watershed
- Action Items
- Next Meeting

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4. Problems, Objectives, and Constraints

Identification of
Problems, Objectives and Constraints
for the
St. Lucie River Watershed Protection Plan

An initial step in the development of the Construction Project for the St. Lucie River Watershed Protection Plan is to identify problems, objectives and constraints that should be considered in the plan. This table documents general problems, objectives and constraints relative to the directives given in Chapter 373.4595, F.S.

Problems	**Objectives**	**Constraints**
▪ Excess regulatory discharges from Lake Okeechobee ▪ Excess discharges resulting from watershed runoff ▪ Excess nutrient loads to river and estuary ▪ Impacts to aquatic habitats ▪ Muck accumulation ▪ Undesirable low flows	▪ Meet Total Maximum Daily Loads ▪ Manage Lake Okeechobee flows to meet desirable salinity ranges for estuary ▪ Manage watershed discharges to meet desirable salinity ranges for estuary ▪ Reduce pollutant loads by improving management of pollutant sources throughout the watershed ▪ Establish Research and Water Quality Monitoring Program sufficient to implement the program and projects	▪ Maintain existing levels of flood protection ▪ Maintain water supply for affected water user basins ▪ Minimum flows and levels

5. Presentation on the St. Lucie Watershed

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

St. Lucie Estuary Watershed Overview

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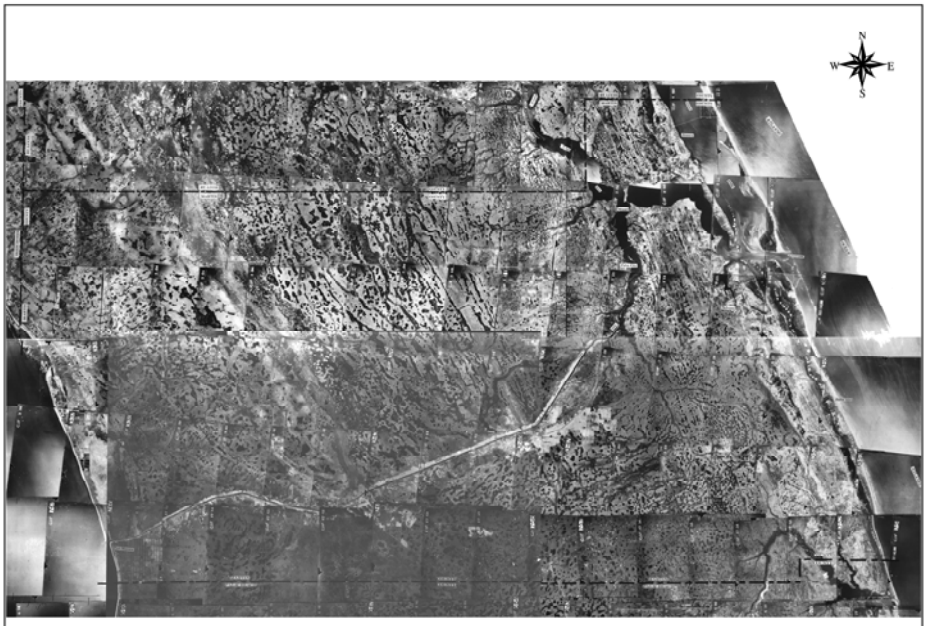
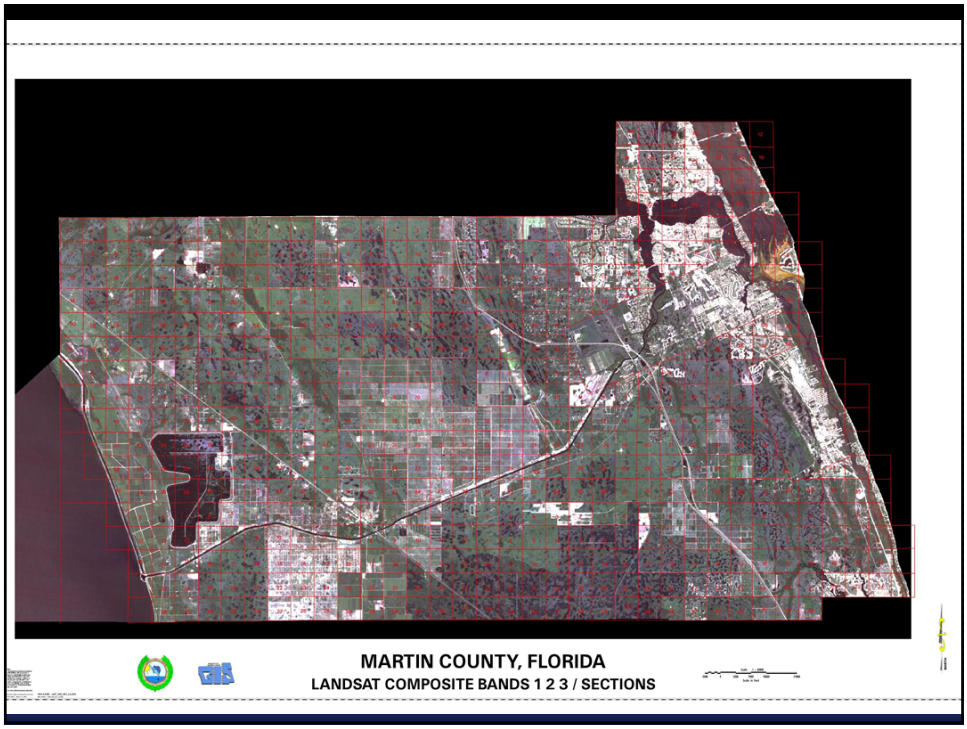


Martin County 1940


MARTIN COUNTY, FLORIDA
LANDSAT COMPOSITE BANDS 1 2 3 / SECTIONS


SOUTH FLORIDA WATER MANAGEMENT DISTRICT
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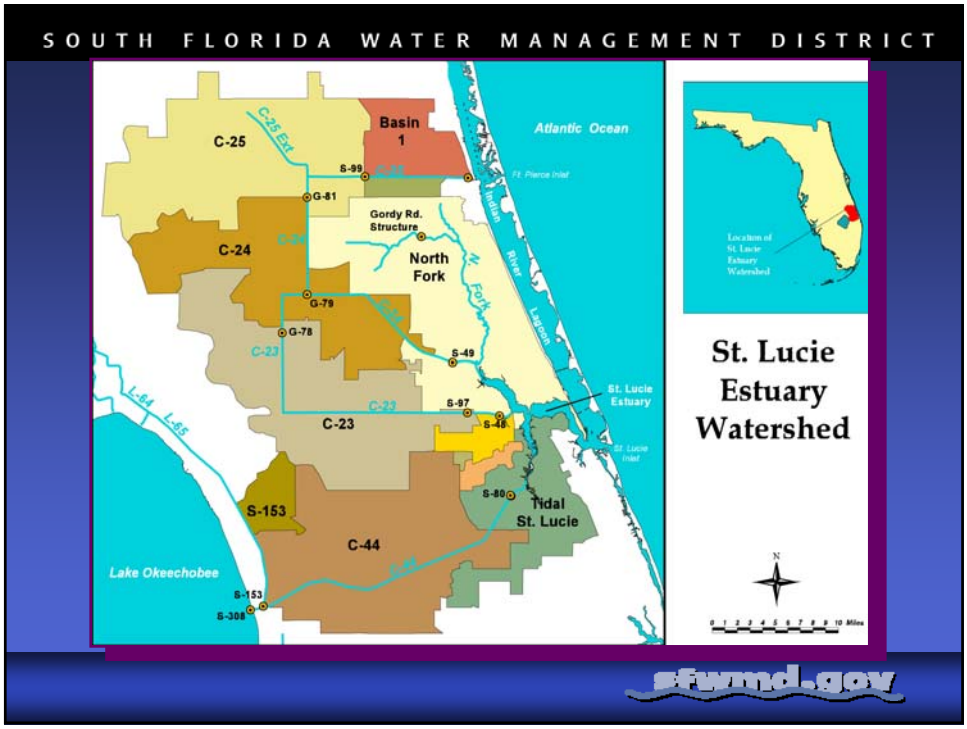
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
C-25
C-25 Ext
Basin 1
S-99
G-81
Gordy Rd. Structure
C-24
North Fork
G-79
G-78
C-23
S-49
S-97
S-48
C-23
L-64
L-65
S-153
C-44
S-80
Tidal St. Lucie
Lake Okeechobee
S-153
S-308
Atlantic Ocean
Ft. Pierce Inlet
Indian River Lagoon
St. Lucie Estuary
St. Lucie Inlet
Location of St. Lucie Estuary Watershed
St. Lucie Estuary Watershed
N
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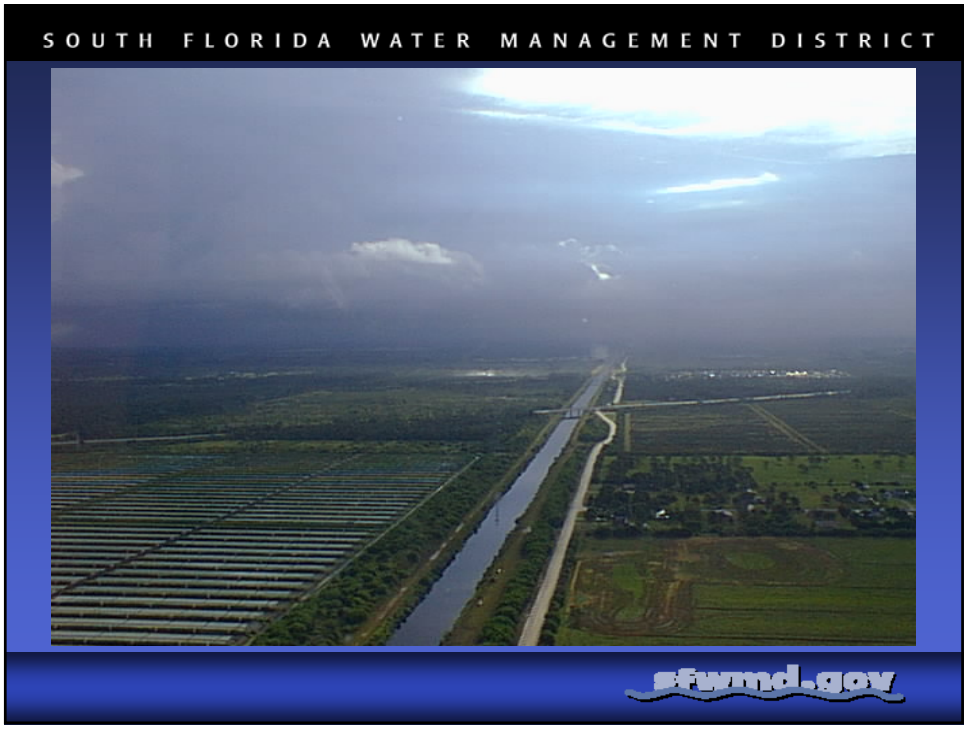
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT
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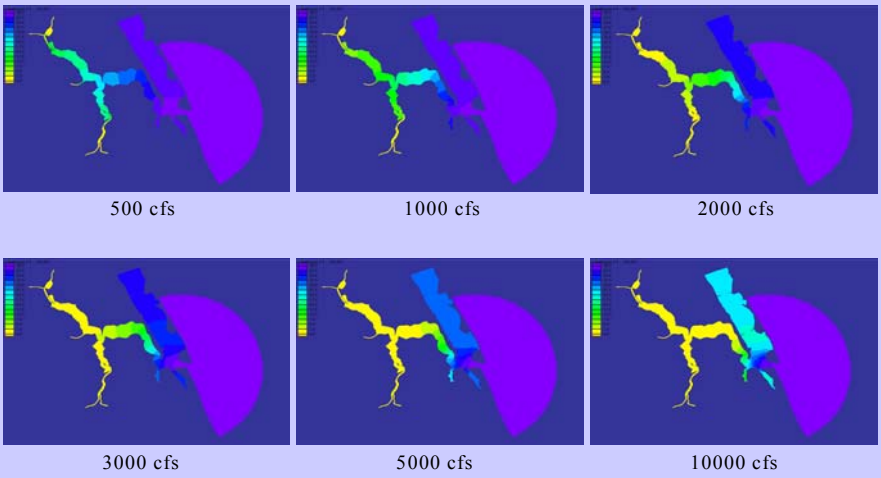
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



The Impact of Drainage Canal Discharge on the Salinity Gradient in St. Lucie estuary

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

St. Lucie Inlet
Nearshore Reefs
"Before" Discharges

St.Lucie Inlet
Nearshore Reefs
"During" Discharges

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Indian River Lagoon

Seagrass Beds

"Before Discharges"

Indian River Lagoon

Seagrass Beds

"During Discharges"

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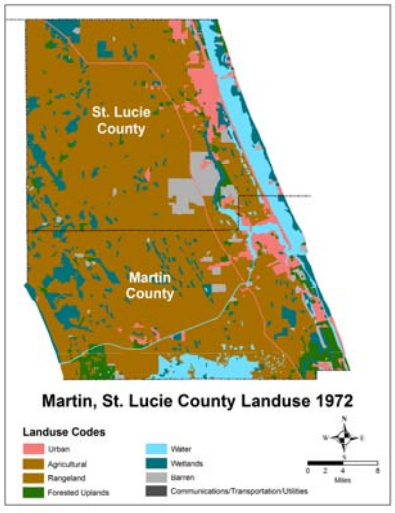
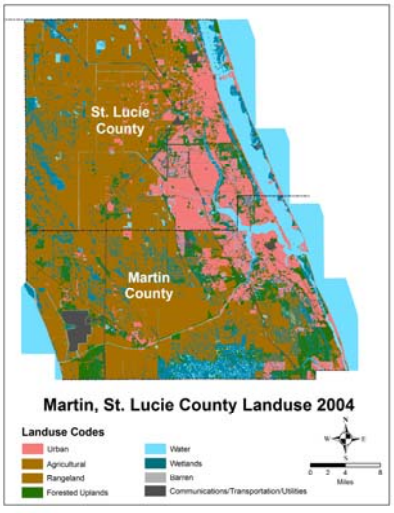
SOUTH FLORIDA WATER MANAGEMENT DISTRICT





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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

SFWMD Watershed Surface Water Quality Monitoring

- WQM – P.O.R 1960's – Present
- SLT – P.O.R. Nov.2001 – Present
- SE – P.O.R. 1991 - Present

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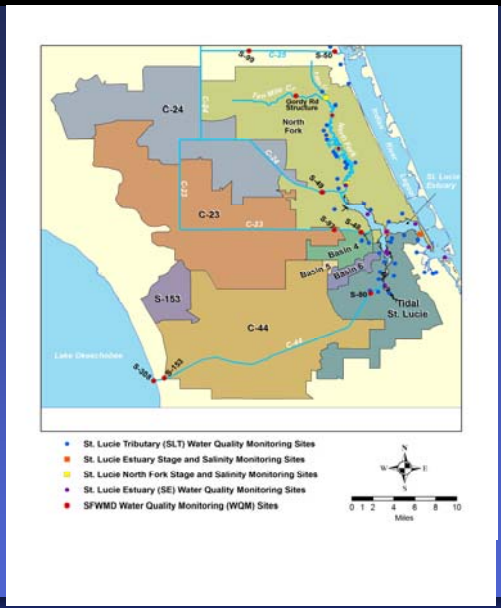

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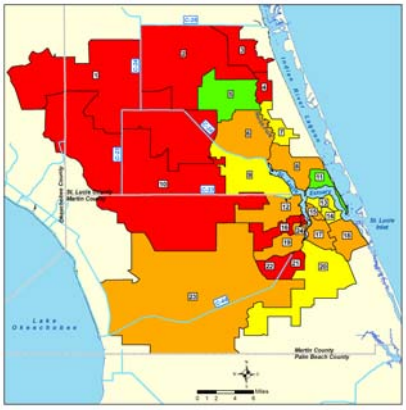
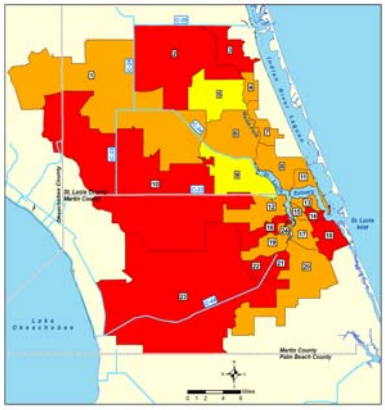
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



Total Phosphorus From Each Sub Basin in the St. Lucie Estuary Watershed



Nitrate + Nitrite as N From Each Sub Basin in the St. Lucie Estuary Watershed

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Ranking of Stations Based on Concentrations Exceeding 75th Percentile

Station	Summary Rankings				Ranking by Parameter				
	Overall Ranking	Total Nitrogen, Total Phosphorus and Total Copper	Total Nitrogen and Total Phosphorus	Inorganic Nitrogen and Soluble Reactive Phosphorus	Total Copper	Total Phosphorus	Soluble Reactive Phosphorus	Total Nitrogen	Inorganic Nitrogen
SLT-36	1	1	2	1	4	3	1	2	1
SLT-2	2	2	4	4	9	1	2	12	12
SLT-3	2	2	3	4	13	6	6	3	8
SLT-39	4	6	7	2	11	4	3	17	4
SLT-6	5	6	1	3	29	2	5	1	3
SLT-24	6	4	6	8	8	8	10	12	15
SLT-22	7	10	12	10	10	5	11	23	16
SLT-7	7	9	10	11	14	11	14	12	14
SLT-35	9	11	20	9	3	30	15	11	11
SLT-37	9	5	15	21	NA	24	33	6	7
SLT-14	11	12	5	7	30	13	17	5	6
SLT-5	12	8	7	20	15	9	4	12	35
SLT-9	13	14	12	13	24	7	8	21	21
SLT-30	14	12	24	22	1[a]	17	12	30	30
SLT-34	14	20	15	11	32	20	23	10	5
SLT-8	14	15	27	18	1	26	18	26	19
SLT-13	17	17	9	14	36	18	20	4	13
SLT-33	17	28	29	6	16[a]	21	9	35	10
SLT-27	19	16	19	19	16[a]	16	13	22	25
SLT-28	20	19	29	22	5[a]	15	7	41	35
SLT-37A	21	26	23	14	25	37	31	9	2

NOTE:

[a] Total number of samples collected at the station was eight or less.
NA - No available samples.
Ties are indicated by the ranks being equal in a column.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Regional & Local Projects

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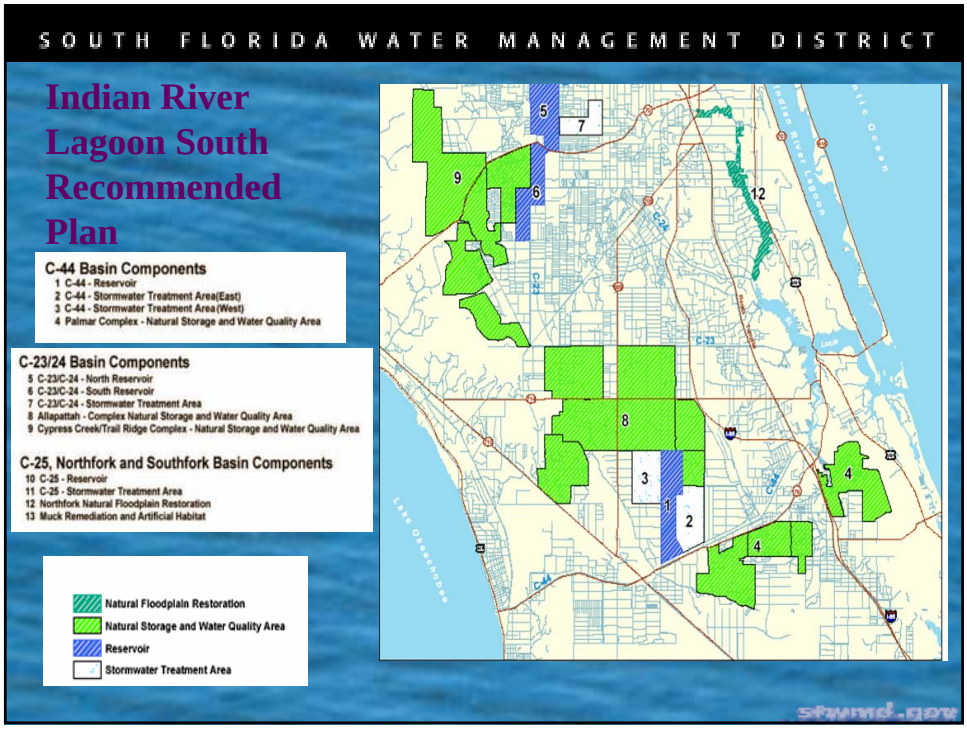
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
Indian River Lagoon South Recommended Plan
C-44 Basin Components
1 C-44 - Reservoir
2 C-44 - Stormwater Treatment Area(East)
3 C-44 - Stormwater Treatment Area(West)
4 Palmar Complex - Natural Storage and Water Quality Area
C-23/24 Basin Components
5 C-23/C-24 - North Reservoir
6 C-23/C-24 - South Reservoir
7 C-23/C-24 - Stormwater Treatment Area
8 Allapattah - Complex Natural Storage and Water Quality Area
9 Cypress Creek/Trail Ridge Complex - Natural Storage and Water Quality Area
C-25, Northfork and Southfork Basin Components
10 C-25 - Reservoir
11 C-25 - Stormwater Treatment Area
12 Northfork Natural Floodplain Restoration
13 Muck Remediation and Artificial Habitat
Natural Floodplain Restoration
Natural Storage and Water Quality Area
Reservoir
Stormwater Treatment Area
Indian River Lagoon
Lake Okeechobee
C-23
C-24
C-25
C-44
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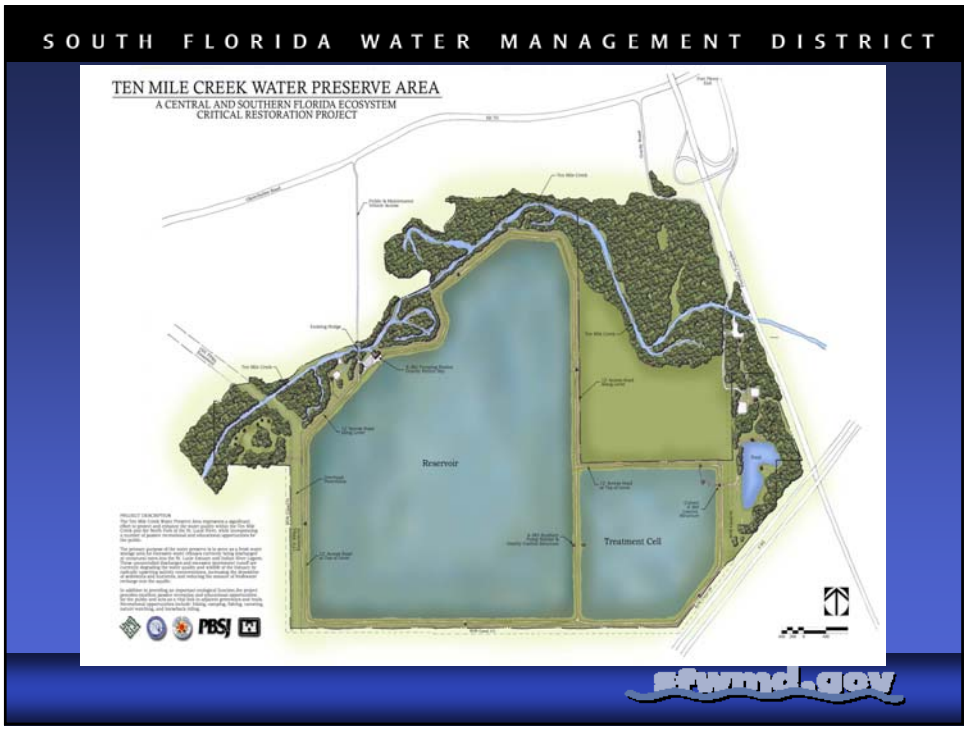
SOUTH FLORIDA WATER MANAGEMENT DISTRICT
TEN MILE CREEK WATER PRESERVE AREA
A CENTRAL AND SOUTHERN FLORIDA ECOSYSTEM
CRITICAL RESTORATION PROJECT
Reservoir
Treatment Cell
PBSJ
sfwmd.gov

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

St. Lucie Issue Team Funding to Date

- $61M from Florida Legislature
- $63M from local governments & agencies
- Total of $124M for 107 projects that benefit of the SLE and IRL

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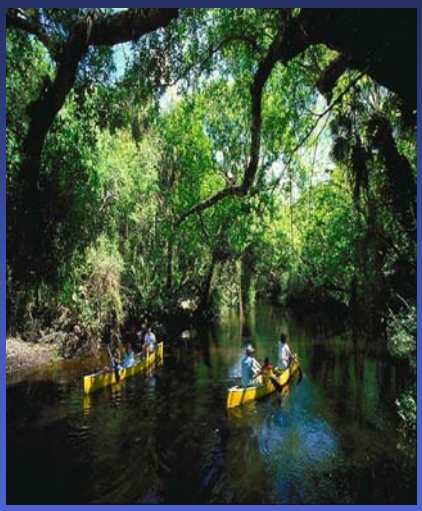
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Results

- Restored/Protected:
  - 4,671 acres of critical habitat
  - 2,581 acres of wetlands and environmentally sensitive lands
  - 16,787 linear feet of shoreline
- Removed 661,600 cubic yards of muck & sediment
- Controlled vegetation on 550 acres
- Restored/stabilized 36,400 linear feet of canal bank
- Closed 80 Floridan Aquifer wells



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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Results

- 97,525 acres of drainage area captured by water quality, stormwater and sediment retention facilities.
- 142 baffle boxes now capture an average of 67 tons/yr of sediment within Martin County and 700 cubic yards/yr of debris within the city of Port St. Lucie. Two Vacuum Trucks for baffle box maintenance.
- 4,692 ac. of citrus converted to spray jet irrigation reducing water use and runoff to SLE/IRL
- Mobile Irrigation Labs educate homeowners on proper irrigation techniques saving 200 million gallons of water per year and reducing stormwater runoff to estuary.

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Results

- Installed 83 water quality and quantity monitoring sites that cover 100% of the watershed.
- Developed a 3-D water quality model to help identify and resolve WQ issues.
- Support fish health research
- Provide education to diverse groups on how to reduce water pollution, conserve water and IRL/SLE ecology
- Support R&D for agricultural best management practices

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OCT 11 2005
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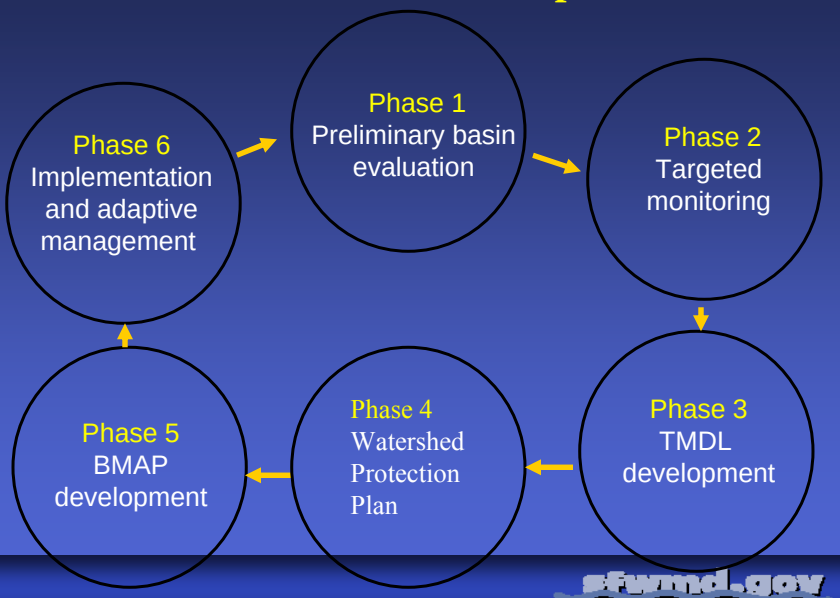
TMDL/BMAP Development



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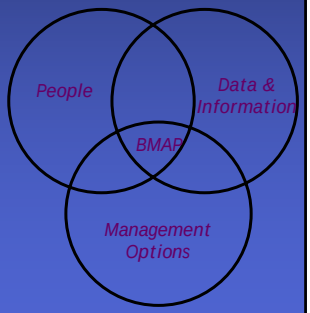
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

BMAP Basics

(Basin Management Action Plan)

- Refined source identification
- Allocations
- Management strategies
- Funding
- Monitoring (water quality)
- Tracking (project implementation)



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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Future

- TMDL – Establishes Water Quality Standards for Impaired Water Bodies
  - Addresses Ag & Urban runoff
- Acceler8 – C-44 Reservoir & Stormwater Treatment Area (STA)
- Indian River Lagoon South Plan – C-23/C-24 Reservoir & STA
- Ten Mile Creek- Water Preserve Area
- Lake Okeechobee & Estuary Recovery (LOER)
- Northern Everglades Legislation

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6. Example DRAFT Management Measure Sheets

Northern Everglades- Potential Management Measure

Project Feature/Activity:

Level:

General description/Background:

Purpose:

Location/size/capacity:

Initiative status:

Cost :

Documentation:

Estimate of Water Quality Benefits

- Minimum:
- Maximum:
- Most Likely:
- Level of Certainty: Conceptual
- Assumptions:

Estimate of Water Quantity Benefits

- Minimum:
- Maximum:
- Most Likely:
- Level of Certainty:
- Assumptions:

Screening Criteria

- Proof of Concept:
- Other Impacts:

Contact:

Northern Everglades- Potential Management Measure

Project Feature/Activity: C-44 Reservoir / STA

Level: 1 (This feature is part of the future base RSM simulation)

General Description/Background: The C44 Reservoir/ STA Project is located on approximately 12,000 acres of land owned by SFWMD. This project comprises three components (Reservoir, West STA, and East STA) identified in the Indian River Lagoon south (IRL-S) Project Implementation (PIR).

Purpose: The project objectives, as defined in the PIR, are to capture local runoff from the C44 Basin, treat some or all of it via sedimentation and natural transformation of nutrients, and return it to the C-44 Canal when there is a need. The components are designed for flow attenuation to the St. Lucie Estuary, water quality benefits from reduced loading of nutrients, pesticides, herbicides, and other pollutants contained in runoff presently discharged to the estuary, and water supply benefits. Additional future benefits include the ability to remove the increased phosphorous load in the C-23 diverted water.

Location/Size/Capacity: The project is located in Martin County, directly north of the C-44 Canal (St. Lucie Canal), halfway between Lake Okeechobee and the Atlantic Ocean. The project components include a reservoir, a pump station, stormwater treatment areas, canals, embankments, structures, roads, and the temporary reconfiguration of TIWCD canals:

- Reservoir
  - Acreage 3,400 acres
  - Water Depth ~ 15 feet
  - Storage volume 50,600 to 55,000 ac-ft
  - Embankment length 48,600 linear ft

- Pump Station
  - Capacity 1,100 cfs

- TIWCD Irrigation Pump Station
  - 85,000 gpm

- STA
  - Acreage 6,300 acres
  - Intake/Discharge Canals 20,000 linear ft
  - Perimeter Canals 92,500 linear ft
  - Conveyance/Control Structures 19
  - Storage Volume: 8,505 ac-ft (based on 90% footprint area available for storage and 1.5 ft standard operating depth)

Initiative Status: Final plans and specs submitted June 29, 2007

Cost: Pre-final Design Opinion of Probable Construction Cost is $339.8 million

Documentation: For more information, please see Formal BODR and Final Design Report and calculations.

Estimate of Water Quality Benefits

- Minimum: 4 mtons/yr
- Maximum: 4 mtons/yr
- Most Likely: 4 mtons/yr
- Level of Certainty: Final
- Assumptions: This is the load reaching Lake Okeechobee. Period of Record for Modeling is 1968-2000.

Estimate of Water Quantity Benefits

- Minimum: Reservoir (55,000 ac-ft); STA (8,505 ac-ft)
- Maximum: Reservoir (55,000 ac-ft); STA (8,505 ac-ft)
- Most Likely: Reservoir (55,000 ac-ft); STA (8,505 ac-ft)
- Level of Certainty: Final
- Assumptions: STA storage volume based on 90% footprint area X 1.5 ft standard operating depth

Screening Criteria

- Proof of Concept: 1
- Other Impacts: 1

Contact: Sue Ray, SFWMD, 561-242-5520 *4019

01-02-49

Northern Everglades- Potential Management Measure

Project Feature/Activity: BMPs (Agricultural)

Level: 1

General Description/Background: Since 2002, considerable effort has been expended on the implementation of agricultural BMPs and water-quality improvement projects to immediately reduce the discharge of P from the watershed to the lake. Agricultural Nutrient Management Plans (AgNMPs) for the 22 active dairies in the watershed were completed in 2002, covering more than 31,000 acres (12,545 ha). Detailed planning, engineering, and design for implementing the stormwater component of the AgNMPs, at four of the dairies, will be completed by June 2007. Implementation of all of the dairy AgNMPs is expected to be completed by FY 2015.

Completed conservation plans now cover approximately 474,200 acres (191,902 ha) in the watershed, and BMPs are in various stages of implementation. The majority of this acreage lies within the four priority basins. Plans are being developed for an additional approximately 600,000 acres (242,811 ha) of agricultural operations. These figures reveal that more than half of the agricultural acreage in the entire watershed is currently under voluntary FDACS programs to plan and implement practices to control offsite movement of P. At the current rate of participation, FDACS is on schedule to complete BMP-based plans for the remainder of the agricultural acreage in the watershed by July 2010, and fully implement BMPs by 2015, as required by the Lake Okeechobee Protection Plan.

Purpose: Improve water quality by reducing transport of nutrients (primarily phosphorus) via runoff and leaching into regional system from agricultural and non-agricultural land uses

Location/Size/Capacity: Primarily within Lake Okeechobee watershed; expanding into estuary watersheds

Initiative Status:

Agricultural- underway; need update from FDACS

Urban- underway; need update from FDEP

Cost: get from FDACS/FDEP

Documentation: For more information, please see…

Estimate of Water Quality Benefits

- Minimum: Urban Rollup
- Maximum: Urban Rollup
- Most Likely: Urban Rollup
- Level of Certainty: Conceptual
- Assumptions: Water quality benefits will be rolled up into a single "urban" category

Estimate of Water Quantity Benefits

- Minimum: Incidental
- Maximum: Incidental
- Most Likely: Incidental
- Level of Certainty: Conceptual
- Assumptions: NA

Screening Criteria

- Proof of Concept: 1
- Other Impacts: 0

Contact: Rich Budell, Florida Department of Agriculture and Consumer Services (FDACS), 850-488-6249

Northern Everglades – Potential Management Measure

Project Feature/Activity: Lakeside Ranch STA

Level: 2

General Description/Background: The Lakeside Ranch STA is a proposed 2,400 acre STA in western Martin County between the Beeline Highway and Lake Okeechobee.

Purpose: This STA will treat water to remove phosphorus before it enters Lake Okeechobee.

Location/Size/Capacity: The Lakeside Ranch STA is a proposed 2,400 acre STA in western Martin County between the Beeline Highway and Lake Okeechobee.

Initiative Status: Basis of Design Report completed.

Cost: $137 million

Documentation: For more information, please see…

Estimate of Water Quality Benefits

- Minimum: 8 mtons/yr
- Maximum: 19 mtons/yr
- Most Likely: 8 mtons/yr
- Level of Certainty: Conceptual
- Assumptions: BMPs in place for minimum estimate, not in place for maximum estimate. Most likely estimate assumes BMPs in place. Period of record: 1965-2005. Inflow concentration: 345 ppb without BMPs, 122 ppb with BMPs. Cultural resource mitigation is assumed to not impact treatment area available. BMP estimates based on LOPD 2007 update. BMP estimations are based on LOPP 2007 Update.

Estimate of Water Quantity Benefits

- Minimum: 3,240 ac-ft
- Maximum: 3,240 ac-ft
- Most Likely: 3,340 ac-ft
- Level of Certainty: Conceptual
- Assumptions: Period of record: 1965-2005. STA storage volume based on 90% of footprint area of 2,400 acres X 1.5 standard operating depth

Screening Criteria

- Proof of Concept: 1
- Other Impacts: 1

Contact: Mark Long, SFWMD, 561-242-5520 *4061

Northern Everglades – Potential Management Measure

Project Feature/Activity: Environmental Resource Permit (ERP) Basin Rule

Level: 3

General Description/Background: This management measure originated as a component of the Lake Okeechobee and Estuary Recovery (LOER) plan. The component was titled Environmental Resource Permit (ERP) Revisions. The intent is to develop specific supplemental permit criteria for new permitted projects to demonstrate that they will not cause or contribute to the impairment of the targeted water bodies by discharging lower phosphorus loads and runoff volume on an average annual basis.

Purpose: The purpose of this measure is to reduce phosphorus loads and total runoff volume from new development that discharge ultimately to Lake Okeechobee or the Caloosahatchee or St. Lucie estuaries.

Location/size/capacity: The basin rule would cover the Lake Okeechobee Watershed and the Caloosahatchee and St. Lucie Estuary Watersheds

Initiative Status: The District initiated the rule development process on February 8, 2006. Several workshops have been conducted to solicit input from stakeholders in the subject basins. The District is in the process of developing technical criteria and draft rule language necessary to conduct additional workshops. The original goal for requesting rule adoption from the Governing Board is December 2007.

Cost: TBD

Documentation: For more information, follow: https://my.sfwmd.gov/portal/page and choose the Lake Okeechobee and Estuary Watersheds Basin Rule powerpoint.

Estimate of Water Quality Benefits

- Minimum:
- Maximum:
- Most Likely:
- Level of Certainty: conceptual/final/unknown
- Assumptions: Projected benefits will roll up under urban category

Estimate of Water Quantity Benefits

- Minimum:
- Maximum:
- Most Likely:
- Level of Certainty: conceptual/final/unknown

- Assumptions:

Screening Criteria

- Proof of Concept:
- Other Impacts

Contact: Damon Meiers, SFWMD, 561-682-6876

Northern Everglades- Potential Management Measure

Project Feature/Activity: Isolated connection between L-65 Canal and L-8 Canal via L-8 Tie-Back Canal (L-65 to L-8 Connection)

Level: 4

General Description/Background: Install a high volume (1000+/- cfs) inverted culvert under the C-44 Canal from the L-65 Canal to the L-8 Tieback Canal to facilitate the movement of low nutrient water from Stormwater Treatment Areas north of Lake Okeechobee to the L-8 Reservoir.

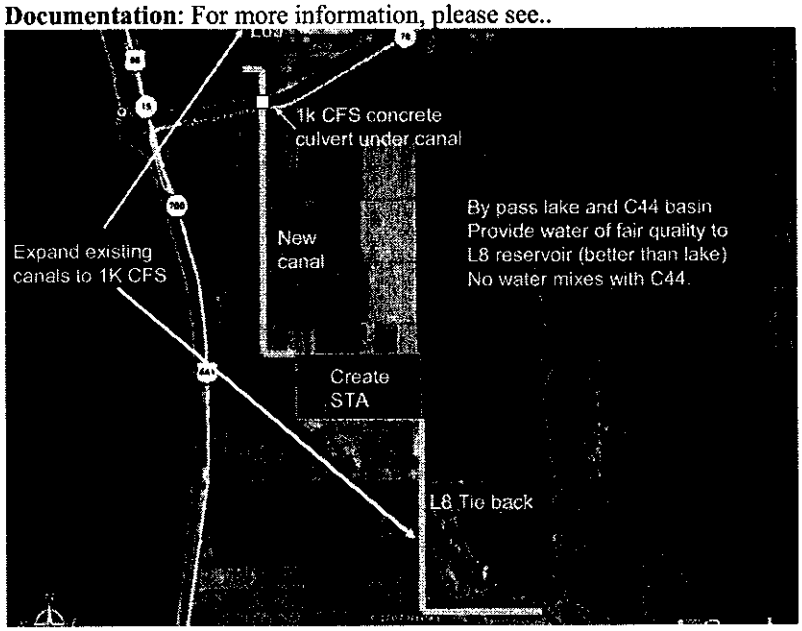
Purpose: To route STA-treated water from the Taylor Creek/Nubbin Slough area to the L-8 Reservoir via a new connection between the L-65 and L-8 Canals. The isolated connection prevents treated water from coming in contact with un-treated C-44 Canal water.

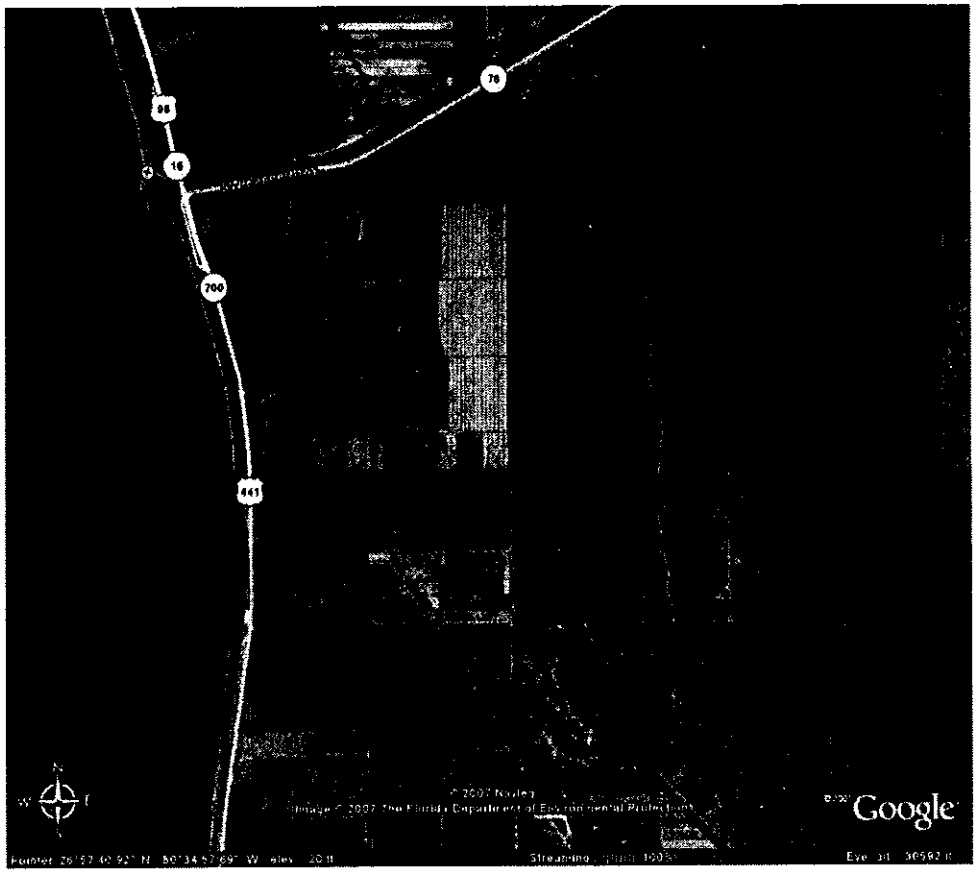
Location/Size/Capacity: Isolated connection of up to 1,000 cubic feet per second.

Initiative Status: Conceptual

Cost: TBD

Documentation: For more information, please see..





Estimate of Water Quality Benefits

- Minimum: 0 mtons/yr
- Maximum: 38.4 mtons/yr
- Most Likely: 3.84 mtons/yr
- Level of Certainty: Conceptual
- Assumptions: Assume all Proposed Improvements within the Taylor Creek/Nubbin Slough area are completed to provide 38.4 Mtons of remaining P load. Assume that L-8 system could only take approximately 10 % of average annual discharge of 187,583 acre-feet. This provides approximately 18,758 acre-feet of water and 3.84 Mtons of P diverted from Lake Okeechobee

Estimate of Water Quantity Benefits

- Minimum: 0 ac-ft
- Maximum: 187,583 ac-ft

- Most Likely: 18,758 ac-ft (diverted from Lake Okeechobee)
- Level of Certainty: Unknown
- Assumptions: An evaluation of the L-8 Basin system would need to be performed to determine the amount of water that could be brought into this system.

Screening Criteria

- Proof of Concept: 1
- Other Impacts: 0

Contact: Michael Voich, SFWMD, 561-681-2563 *3720

Northern Everglades – Potential Management Measure

Project Feature/Activity: Easements

Level: 5

General Description/Background: Conservation Easements represent an alternative to fee simple acquisition of public lands. Under these less–than–fee simple interests, the District (or other partnering agency) acquires the right to conserve and protect resources on the property at a lesser cost to taxpayers, while keeping the land in private ownership and on the tax rolls. However, land acquired through less–than–fee usually doesn't allow for public access.

Purpose: The basic philosophy and purpose of a Conservation Easement is to preserve and retain land or water areas in their natural, scenic condition. This includes a wide range of goals such as conserving open space, water recharge areas, floodplains, wetlands, environmentally sensitive lands, wildlife habitat or historic features. Through the easement agreement, the landowner retains title to the land but gives up certain rights or uses. For example, a cattle rancher may enter into an agreement whereby he or she is allowed to continue cattle operations in existing areas of improved pasture and to conduct other activities such as hunting, fishing and hiking. Generally, these uses are to be undertaken in conformity with an approved management plan or other performance standards. The easement prohibits or limits activities that are detrimental to or inconsistent with the overall conservation and preservation purpose such as extraction of minerals, construction of improvements, development of residential communities and destruction of trees.

Conservation easements may provide some economic benefits to the adjacent landowners. In fact, studies suggest that properties located in close proximity to preserved lands retain their value better than properties that are not located near preserved lands. Landowners can also receive certain tax advantages for entering into a conservation easement. When making a land donation for a qualified conservation purpose, federal income tax deductions can be made. Internal Revenue Service (IRS) regulations require the property to have significant conservation values, and the property must meet IRS tax code provisions. Savings in estate taxes can be made when passing on land protected by a conservation easement. Though the payment of property taxes is still a responsibility of the landowner, a reduction in that amount is a possible tax benefit.

Additionally, if an owner does not wish to sell the subject property at the present time, he or she could offer the District a first-right-of-refusal. That gives the District the chance to try to buy the land in the future, if circumstances change and an owner decides to put the property on the market. These and other methods of resource protection planning can often solve the needs of the owner and also save part of Florida's natural or cultural heritage for the future.

It is important to remember that conservation easements must be properly managed in order to provide maximum benefits for people and the environment. The easements essentially create a public and private relationship of shared control over the future of the land. Though usually there is no public access granted, the District is granted access to monitor and assure the landowner's compliance with the terms and conditions of the easement.

Through the use of conservation easements, landowners and the District are preserving land and protecting water resources. A conservation easement is a perpetual, legal agreement specifically tailored to meet the needs of both the landowner and the District, and transferred with the land from owner to owner when the property is sold.

In addition to the previously described conservation easements that are acquired by the District through purchase or donation, "regulatory conservation easements" represent another category that are acquired by the District as an offset to environmental impacts from development. Most land developments require permits from the District to ensure that development will not: degrade water bodies; cause flooding; or adversely impact wetlands or other natural resources. To protect wetlands or to offset impacts from permitted construction projects, the wetlands that remain on a permitted property, along with natural areas bordering them, often are placed in a conservation easement. Conservation easements are often granted as part of a District approved mitigation plan. Frequently, these easements are located on or behind future developable land.

Location/size/capacity: Within Northern Everglades watersheds are defined by legislation.

Initiative Status: Programs are currently being implemented by federal and state agencies, special districts, local governments, and non-governmental organizations. Examples of programs include the Wetland Reserve Program, Florida Forever, Save Our Rivers, Martin County Greenways Program, and the Nature Conservancy.

Cost: Negotiated easements are based upon appraised values. With property values continuing to increase throughout the Northern Everglades project area, adequate funding continues to be a critical issue.

Documentation: Due to the general nature of this Management Measure, there is no specific documentation.

Estimate of Water Quality Benefits

- Minimum: TBD
- Maximum: TBD
- Most Likely: TBD
- Level of Certainty: Conceptual
- Assumptions: Land protected through easements will maintain water quality associated with existing land use.

Estimate of Water Quantity Benefits

- Minimum: TBD
- Maximum: TBD
- Most Likely: TBD
- Level of Certainty: Conceptual
- Assumptions: Land protected through easements will maintain water quantity associated with existing land use.

Screening Criteria

- Proof of Concept: 0
- Other Impacts: 0

Contact: John Morgan, SFWMD, 561-681-2563 *3703